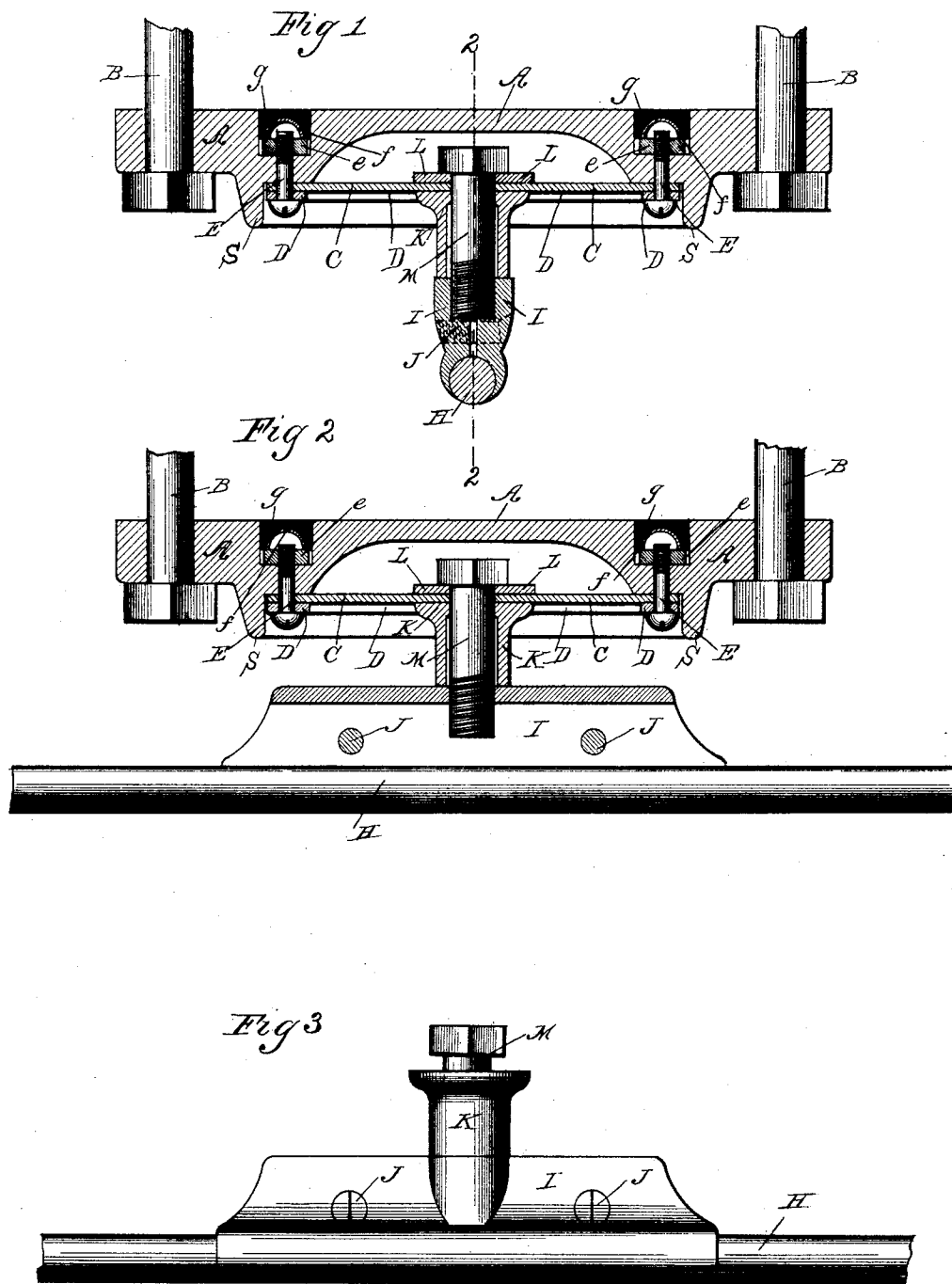


(No Model.)

E. A. SPERRY.
TROLLEY WIRE SUPPORT.

No. 471,151.

Patented Mar. 22, 1892.



Witnesses
W. C. Corlies
J. L. Tunison.

Inventor.
Elmer A. Sperry,
By Buckingham & Ewart
Attys

UNITED STATES PATENT OFFICE.

ELMER A. SPERRY, OF CHICAGO, ILLINOIS.

TROLLEY-WIRE SUPPORT.

SPECIFICATION forming part of Letters Patent No. 471,151, dated March 22, 1892.

Application filed July 9, 1891. Serial No. 398,921. (No model.)

To all whom it may concern:

Be it known that I, ELMER A. SPERRY, of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful
5 Improvement in Trolley-Wire Supports, of which the following is a specification, reference being had to the accompanying drawings, in which similar letters of reference indicate like parts in all the figures.

10 My improved trolley-wire support is particularly applicable to use in mines, where a trolley-wire is led through the entries and butt-entries, which are usually low and of restricted width. Heretofore in such places it
15 has been customary to support the trolley-wire by a clamp holding the wire and attached to a block, which in turn is secured to the roof of the entry in the mine. This method is objectionable, as it makes the
20 points of support of the trolley-wire rigid and unyielding, while between the supports there is in the stretched wire a certain amount of flexibility, so that in the passage of the trolley-wheel along the wire it has an elastic contact with it between the points of support;
25 but at such supports the contact becomes rigid, and this rigidity operates as a shock or blow to the trolley-wheel, which in case of high speed of the trolley-wheel along the wire is sometimes sufficient to throw the wheel entirely off the wire. To overcome this objection and to render the support of the trolley-wire elastic under the contact of the trolley-wheel is the object of my invention, and I accomplish this object by the device shown in
35 the drawings, wherein—

Figure 1 is a vertical section of my improved trolley-wire support transversely of the wire. Fig. 2 is a section and projection longitudinally of the wire, and Fig. 3 is a view of the wire-holding clamp separated from the supporting-block.

In the figures, A is a block, preferably of insulating material, such as porcelain, and
45 is supported by the bolts B B, which may be screwed or driven into plugs inserted in the roof of the mine-entry.

The block A is provided with a recess or depression in the center, as shown in Figs. 1
50 and 2, over which is placed a diaphragm C, made of canvas or other suitable flexible ma-

terial, and which is secured to the block by a ring D, through which pass the screws E E into the nuts e e, which are let into recesses in the upper side of the block, and over which
55 are placed the shells f f, which prevent the vitreous or plastic insulation g g from entirely filling the recess, and which retains the nut e within the recess, while permitting the screw E to be withdrawn or inserted from below.

H is the trolley-wire and is secured within the split clamp I, the parts of which are held together, preferably, by the screws J J, attached to the clamps, and preferably integral
65 therewith is the upwardly-projecting stem K, which touches the under side of the diaphragm C, and upon the upper side of which I preferably place the washer L. A bolt M secures the stem, clamp, and trolley-wire to
70 the diaphragm C, which in turn is supported by the block A to the roof of the entry.

By the use of this device in practice I do away entirely with the shock and jump of the trolley-wheel in passing the supports and render its movement there as smooth as at other
75 portions of the wire.

S is a depending lip surrounding the point of attachment between the diaphragm and the base-block and operates to prevent a
80 moisture-contact along the surface of the base-block from the diaphragm to the mine roof or support of the base-block.

The form shown in the drawings is that which I prefer to use in practice, although it
85 is evident that it may be varied in detail. For instance, I might use rubber instead of the canvas or leather diaphragm, or I might use metal either as a diaphragm or as a flat strip, preferably supported at both ends, but
90 even only at one end, or I might vary it in other ways without departing from the spirit of my invention.

I claim and desire to secure by Letters Patent—

1. In an integral device for supporting a trolley-wire, a wire-clamp, a portion designed to be secured to the supporting medium, and an elastic or yielding portion connecting the two, for the purpose specified.

2. In a trolley-wire support, a base-block or supporting-bracket, an elastic diaphragm at-

tached thereto and supported thereby, and connections securing the trolley-wire to the diaphragm.

3. In a trolley-wire support, the combination
5 of a base-block having a recess therein, an elastic diaphragm stretched across said recess, and connections between the diaphragm and the trolley-wire for the support of the wire.

4. The combination of a base-block A, hav-
10 ing recesses therein, the screw E, the end of which protrudes into such recess, the shells *f*, covering the screw-threads, and the plastic or vitreous insulation *g*, placed above the cap
15 *f*, substantially as shown, and for the purpose specified.

5. The combination of a base-block A, hav-
ing recesses therein, the diaphragm C, the
screws E for holding such diaphragm, the
ends of which protrude into such recesses,
20 nuts *e* within such recesses, and protecting
caps or shells *f* over the end of the screw for
shielding such screw from the plastic or vit-
reous insulation *g*.

6. In a trolley-wire support, the combination
of a base-block, an elastic diaphragm secured
25 thereto, and the stem K and clamp I, secured
to the diaphragm and supporting the trolley-
wire.

7. In a trolley-wire support, the combination
of a base-block having an elastic diaphragm
30 secured thereto, a bolt M, passing through the
diaphragm, the stem K, and clamp I, substan-
tially as shown, and for the purposes de-
scribed.

8. In a trolley-wire support, the combination
35 of a base-block, an elastic diaphragm attached
thereto and supporting the trolley-wire, and
a depending lip S on the base-block surround-
ing the point of attachment of the diaphragm
to the base-block.

In testimony whereof I have hereunto set
40 my hand in the presence of two witnesses.

ELMER A. SPERRY.

Witnesses:

A. M. HEYL,
WM. BUCKINGHAM.